INTRODUCTION

Centipedegrass (*Eremochloa ophiuroides*) comprises approximately 10% of the roadside turf in North Carolina, mostly in the coastal plain region (1999 North Carolina Turfgrass Survey). Bahiagrass (*Paspalum notatum* L.) was the preferred standard along roadsides in the coastal plain of North Carolina; however, the high mowing frequency and the presence of seedheads which obstruct motorist's vision throughout the summer led North Carolina Department of Transportation personnel to evaluate other species for a possible fit into the vegetation management program along North Carolina roadsides. With centipedegrass, there is a high potential for maintenance savings due to fewer inputs required. Centipedegrass requires no more that 44 pounds of nitrogen per acre per year and requires infrequent mowing. Additionally, it is adapted to a wide range of soil conditions but prefers sandy, acidic soils with pH ranging from 4.0 to 6.1 (Waddington 1992). These preferences of centipedegrass make it well suited for use along roadsides in eastern North Carolina, relative to other species including tall fescue (*Festuca arundinacea* Schreb.) or bahiagrass. More importantly, with centipedegrass as a primary turf in adapted regions, with its inconspicuous seedheads and reduced foliar height, motorist's visibility is not obstructed as with bahiagrass or tall fescue, hence, increasing motorist safety. Although well adapted to the coastal plain region of North Carolina, centipedegrass is suspect to become infested with broomsedge (*Andropogon virginicus*). Broomsedge is a clump-forming perennial grass species which can reach mature vegetative heights of 18 to 36 inches along roadsides which is objectionable because it is aesthetically unpleasing and obstructs motorist's view, hence, decreasing motorist safety. Broomsedge is extremely troublesome along roadsides as no selective herbicide exists for control along centipedegrass roadsides. The only current option for broomsedge control or suppression is mechanically mowing the areas contaminated with broomsedge. This practice only reduces the foliar growth temporarily and does not offer long term control of broomsedge.

Recently, there have been several equipment manufacturers which had developed application placement technology equipment. Commercially available equipment available at the time this research was initiated which utilizes this technology includes Burch Wet Blade, Weedbug, and Brown Brush Monitor. The Burch Wet Blade is currently available as "Wet Blade" by Diamond Mowers and the Brown Brush Monitor is available from Brown Manufacturing Corporation while the Weedbug is not currently available in the United States. Our research utilized Burch Wet Blade; therefore, it will be referred to as Burch Wet Blade within this report.

The Burch Wet Blade as well as the Weedbug function based on a height differential between the target weed species and the desired turf. The Burch Wet Blade uses a pump which supplies a pesticide solution though the drive shaft onto the cutting surface through ported holes. As the Burch Wet Blade mows, it applies a pesticide solution onto the cut plant surface with the aid of a Dickey John metering system. The Weedbug uses a series of discs which is comprised of wicks on the underside. The discs rotate at a speed such that pesticide solution does not leave the wicks but the rotation allows more uniform coverage of the pesticide solution onto the plant surface. The Weedbug only wipes foliage and does not mow. The Brown Brush Monitor does not use